

# Professional Development Seminars and Workshops

JUNE 6 – JULY 1, 1977  
NEW YORK CITY

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Co-Sponsored By

**Polytechnic**

Office of Special Programs  
Polytechnic Institute of New York

**Systems Information Institute**

Software Systems Technology, Inc.

JUNE 6 – July 1  
1977  
New York City





### - General Information

This program is a public service co-sponsored by the office of Special Programs, Polytechnic Institute of New York and Systems Information Institute, Software Systems Technology, Inc. The objective is to provide a series of high quality low-cost professional development seminars/workshops to the data processing communities with the ultimate goal of helping EDP professionals broaden their areas of knowledge and keep up with the ever-changing state of the art.

All courses are designed for practicing professionals, under the overall program direction of Dr. Stanley Preiser and Dr. W. Alvin Chai. The professional development series is under the administrative responsibilities of George Fischer, Dean of the Office of Special Programs, Polytechnic Institute of New York.

### - Faculty

Seminar/Workshop faculty members have been carefully chosen from universities and the computer industry for their expertise in the field.

### - Registration

To register fill out and return the registration coupon with payment or purchase order, at least 2 weeks before the start of the seminar. Confirmation will be sent if time permits. Registrations received late or at the door will be accepted only if space is available.

### - Cancellation & Refund

Cancellations made less than 3 working days prior to the seminar are subject to a \$25.00 cancellation fee. Because of attendance requirements, we reserve the right to cancel or re-schedule sessions. Registrants will be notified.

### - Lodging

Hotel accommodations must be made directly by participants. Information will be forwarded on request.

### - Location

All courses are offered either at the Summit Hotel (East 51st Street at Lexington Ave.) or at the office of Software Systems Technology, Inc. (32nd floor, 39 Broadway — one block south of Wall Street & 4 blocks south of World Trade Center).

### - Fees

The cost for each 1 day seminar including luncheon, refreshment breaks & educational materials is \$160.00, and \$80.00 for the half-day seminar. If payment is received two weeks prior to the start of the seminar the fees are \$150.00 (for the 1-day seminar) and \$75.00 (for the half-day seminar).

**1-DAY SEMINAR            \$160.00**

**HALF-DAY SEMINAR    \$ 80.00**

### - Continuing Education Units

Polytechnic Institute of New York is now awarding Continuing Education Units (C.E.U.'s). The C.E.U. is a nationally recognized unit of measure that indicates your successful participation in a qualified program of continuing education. The C.E.U. is defined as follows: ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction.

Polytechnic Institute of New York will maintain records of your participation and provide you with a transcript which will be verification of your participation. At your request, we will furnish a record of your earned Continuing Education Units.

**For registration, fill out and return coupon or call (212) 643-2150**

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**EDP State-of-the-Art (A)**  
**Seminar AS1A**

**Teleprocessing**  
**A SURVEY OF DATA-COMMUNICATION**  
**NETWORKS**

This seminar provides a comprehensive overview of the various elements entering into the design of a data communications system, whether large or small.

Basic concepts and terminology are introduced, explained and illustrated, and design considerations are then explored in some depth.

**Topics:**

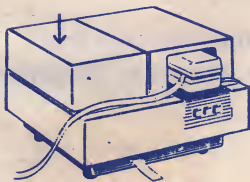
**Part I: Background**

- Signals
- Codes (EBCDIC, ASCII)
- Channels
- Transmission techniques multiplexors, concentrators
- Modulation techniques modems
- Carriers & tariffs
- Terminals
- Asynchronous & Synchronous

**Part II: Design Considerations**

- Reliability: errors; error recovery
- Networks; network optimization
- Computer to computer protocol
- Microprocessors in computer communications

**Instructional Staff:**  
**Dr. Stanley Habib**



**Monday, June 6**  
**9:30 A.M. - 4:30 P.M.**  
**SUMMIT HOTEL**  
**EAST 51st ST. at LEXINGTON AVE.**

**Seminar AS1B**

**Systems Analysis and Design**  
**An Introduction to the**  
**Software Development Process**

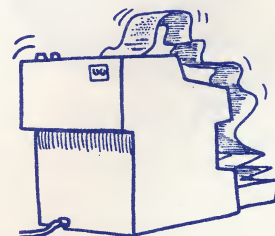
This seminar presents an organized view of the software development life cycle with emphasis on the systems analysis and design phases. It is intended to show programmers, analysts and project leaders how to perform and monitor software development. Good systems analysis and design can dramatically reduce the effort needed for program coding, testing and maintenance.

Individuals attending this course should have data processing or programming experience.

**Topics:**

- Overview of the system development process
- Study of existing systems interviewing users
- Project planning - estimating manpower and schedules
- Problem definition and user specifications
- System functional design - top down design, HIPO's, pseudocode
- System implementation design
- Documentation
- Testing

**Instructional Staff:**  
**Dr. Susan M. Arseven**



**Monday, June 6**  
**9:30 A.M. - 4:30 P.M.**  
**SUMMIT HOTEL**  
**EAST 51st ST. at LEXINGTON AVE.**



## EDP State-of-the-Art (A)

### Seminar AS2A

#### Composite/Structured Design

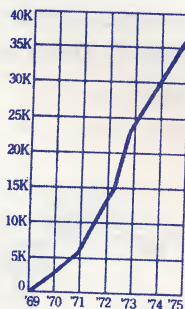
Composite design is a program design methodology that has been found to decrease program development costs, increase program extensibility, and increase program reliability. This seminar is geared to application programmers, systems analysts, and project managers who are interested in producing programs with the above attributes.

#### Topics:

- Program-Structure concepts and notation
- Partitioning, hierarchy, and independence
- Achieving high-module independence
  - Module strength
  - Module coupling
  - Other factors of independence
- The design thought-process
  - Overview of the process
  - Source/transform/sink decomposition
  - Transactional decomposition
  - Functional decomposition
  - Case-study design example
  - Optimization and verification

#### Instructional Staff:

Glen J. Myers



Tuesday, June 7  
9:30 A.M. to 4:30 P.M.  
SUMMIT HOTEL  
51st ST. at LEXINGTON AVE.

### Seminar AS8A

#### Software Reliability

This seminar is designed for professionals who deal with software design, management, and analysis, and maintenance. The emphasis is on tools and techniques for error data collection, analysis of the data, and fitting of models. Such analysis results in cumulative error plots and reliability predictions which are of great use in qualitative management of a programming project. The prerequisites are elementary calculus and probability.

#### Topics:

- Introduction
  - Concepts of Software Reliability
  - Definitions
  - Review of Probability
- Error Types
  - Classification of Bugs
  - Causes of Bugs
  - Higher Level vs. Assembly Language
- Debugging Data
  - Types of Bugs
  - Debugging Rate
  - Bug Generation Rate
- Measurement of Bugs
  - Seeding and Tagging Techniques
  - Extrapolation of Error Curves
- Reliability Models
  - Macro Models
  - Testing to Measure Model Parameters
  - Micro Models
  - Availability of Models

#### Instructional Staff:

Dr. Martin L. Shooman

Wednesday, June 15  
9:30 A.M. to 4:30 P.M.  
SUMMIT HOTEL  
51st ST. at LEXINGTON AVE.



**EDP State-of-the-Art (A)**  
**Seminar AS3A**

**Microprocessors and Microprogramming**

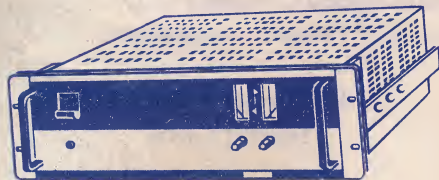
This seminar is intended to expose the attendees to the basic blocks (hardware structure) of a class of microprocessors and the kinds of software generally employed in writing programs for a microprocessor. The differences between a cross section of currently manufactured microprocessors will be indicated. The tutorial will then proceed to discuss microprogramming both user alterable and nonalterable. This section will begin with an introduction to microprogramming followed by examples of specific microcode.

The material is intended for individuals desiring an introductory approach and exposure to the ever more important field of microprocessors and microprogramming.

**Topics:**

- Introduction to relationship of microprocessors to minicomputers
- Hardware structure of microprocessors
- Overview of some specific microprocessors (INTEL, MOTOROLA, AMI, etc.)
- Machine Language Coding for microprocessors
- Introduction to microprogramming
- Applications of microprogramming in bit slice microprocessors

**Instructional Staff:**  
**Dr. Stanley Habib**



**Wednesday, June 8**  
**9:30 A.M. - 4:30 P.M.**  
**SUMMIT HOTEL**  
**EAST 51st. at LEXINGTON AVE.**

**Seminar AS5A**

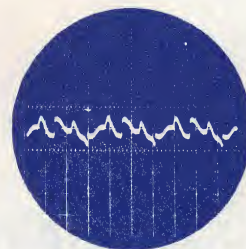
**Performance Evaluations**

This seminar is intended for managers, system programmers, analysts, and technical support personnel who are interested in improving their systems performance and operation efficiency. The seminar presents both basic techniques and practical applications to problems of performance evaluation.

**Outline:**

- Background and Overview
- Hardware Performance Evaluation
  - Classification
  - Workload Selection: Benchmarks
  - Resources Exercises: Kernels
  - Instruction Mixes
  - Summary - State of Art
  - Systems Analysis Techniques
    - System Throughout
    - Profile Conversion
- Measurement in Operations
  - How to schedule Computer Operations
  - Tuning for System Performance
- Case Studies

**Instructional Staff:**  
**Dr. Stanley Preiser**



**Friday, June 10**  
**9:30 A.M. - 4:30 P.M.**  
**SUMMIT HOTEL**  
**51st ST. at LEXINGTON AVE.**



**Database Management Systems**

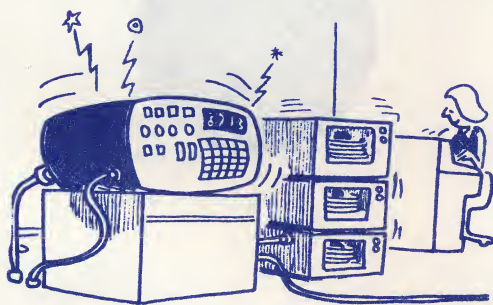
This seminar is intended for management, systems analysts and programmers seeking perspectives on some of the basic issues in DBMS today.

The seminar treats many of the key concepts in Data-Base management today. The three major approaches to data base technology are explained with differences and similarities noted. Hierarchical, network (Codasyl DBTG), and relational approaches are covered. Objectives and benefits of the data-base approach are identified, and the development of DBMS as a crucial technology area is presented in its historical context. The role and responsibilities of a DBA group are discussed. The importance of planning and data-base design is stressed.

**Topics:**

- Types of DBMS: Self contained and host language systems
- Objectives and benefits of the data base approach
- Data models and their storage representation
- Data-base processing languages
- Key planning considerations
- Data-base design

**Instructional Staff:**  
**Charles J. Bontempo**



**Monday, June 13**  
**9:30 A.M. to 4:30 P.M.**  
**SUMMIT HOTEL**  
**51st ST. at LEXINGTON AVE.**

**Distributed Processing**

This seminar is planned to interest those who are involved in the organization of computer power and in the design of systems. At the end of the session the participant should have an appreciation of the nature of choices which are becoming available as a result of dramatically changing technology and design concepts and shifting perceptions of the value and cost.

**Outline**

- Definitions and Examples
  - Distribution of function and hardware
  - Examples of distributed systems
  - Alternative to distributed systems
  - What are the alternatives to distributed processing
- Distribution and Computer Organization
  - Distribution as an aspect of all systems
  - Distributed Intelligence
  - Distributed Architecture
  - Distributed Function
  - Distributed by software
  - Distributed and multiprocessing
- Distribution and Enterprise Organization
  - Distributing Control
  - Management Style in Computer Organization
  - Levels of Management in data processing
- Computer Economics
  - User Decision Space
  - Cost and Value in Computing
  - Hardware and software costs
  - Value Added Concepts of Computing
  - Levels of Product integration

**Instructional Staff:**  
**Harold Lorin**

**Friday, June 17**  
**9:30 A.M. to 4:30 P.M.**  
**SUMMIT HOTEL**  
**51st ST. at LEXINGTON AVE.**



## **EDP State-of-the-Art (A)**

### **Seminar AW2A**

#### **Minicomputers**

This one day seminar is geared to managers, analysts, technical support personnel and computer users who wish to gain an overall understanding of minicomputers and their potential applications.

The seminar is also extremely useful to busy executives who are considering the purchase of a small business computer and who are looking for information which will help them make a decision with a degree of knowledge.

#### **Course Outline:**

- What are minicomputers?
  - Architecture
  - Peripherals
  - Software
- Minicomputer Applications
- Minicomputer area of Concern
  - Reliability
  - Maintenance & Repair
  - System Installation
  - Planning for Growth & Change
- Alternatives to Minicomputers
- Overview & Survey of Current Minicomputers
- Implementing Minicomputer Systems
  - Selection Criteria
  - Contractual Consideration
  - Project Control

#### **Instructional Staff:**

Alan W. Kaufman  
or a member  
of Systems Information Institute

**Tuesday, June 21**  
**9:30 A.M. - 4:30 P.M.**  
**Software Systems Technology, Inc.**  
**32nd Floor**  
**39 BROADWAY**

### **Seminar AW3A**

#### **Word Processing Systems**

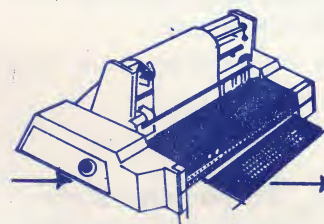
This seminar is designed for professionals who are involved in the creation, modification, storage and retrieval of textual information. Personnel working in application areas such as document preparation, letter writing, data entry and editing will find this course of interest. Project leaders, analysts, and programmers may wish to utilize these systems in developing systems specifications, computer programs, documentation, and user manuals. With the availability of word processing systems for microprocessors, minicomputers, and large-scale computer systems, word processing concepts should be relevant for users of large and small computing facilities.

#### **Topics:**

- Overview of word processing;
- Basic word processing functions;
- Overview of selected word processing systems;
- Word processing applications.

#### **Instructional Staff:**

Lynda W. Sloan



**Wednesday, June 22**  
**9:30 A.M. - 4:30 P.M.**  
**Software Systems Technology, Inc.**  
**32nd Floor**  
**39 BROADWAY**



**Seminar BS4A**

**Structured Cobol**

**How to Write Structured Programs in COBOL**

This half-day is intended to help COBOL programmers do a more effective job of writing readable, error-free programs which are easier to maintain. The seminar will review the basic concepts of structured programming and describe how structured programming can be done in COBOL.

A good deal of the seminar will be devoted to the study of a set of tested programs for accomplishing typical data processing applications in structured COBOL.

**Course Outline:**

- What is structured programming?
  - Three control structures
  - Indentation
  - Emphasis on readability
- Examples of structured COBOL programs
  - A very simple program to list a deck
  - A three-level control total program
  - A file update program developed in step-wise refinement fashion
  - A program using indexing and the SEARCH verb
- Goals and results
  - Easier code checking by other programmers
  - Simplified checkout
  - Greater improved program maintainability

**Instructional Staff:**  
Daniel D. McCracken

Thursday, June 9  
9:30 A.M. - 1:00 P.M.  
SUMMIT HOTEL  
EAST 51st ST. at LEXINGTON AVE.

**Seminar BS7B**

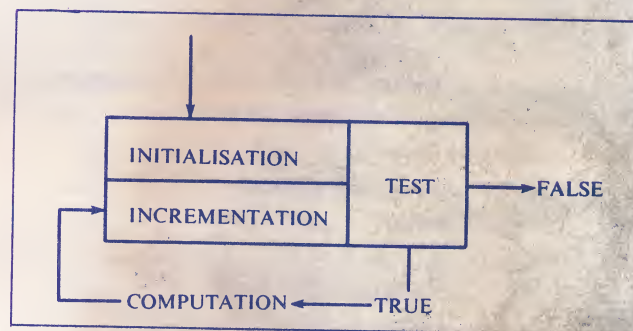
**Structured Programming  
With PL/I and Fortran Application**

This seminar converts the seemingly loft jargon of structured programming into plain applicable and productive realities. Explanations of various concepts that form the basis of structured programming will be covered. Discussions will focus on practical applications.

**Topics:**

- Structured Charts
- Top-down Program Design
- Verification and Testing
- Design of Large Programs
- Management of Teams
- Implementation and Applications

**Instructional Staff:**  
Dr. Henry Ruston



Tuesday, June 14  
9:30 A.M. - 4:30 P.M.  
SUMMIT HOTEL  
EAST 51st ST. at LEXINGTON AVE.



**Systems & Programming Series (B)**  
**Seminar BW1A**

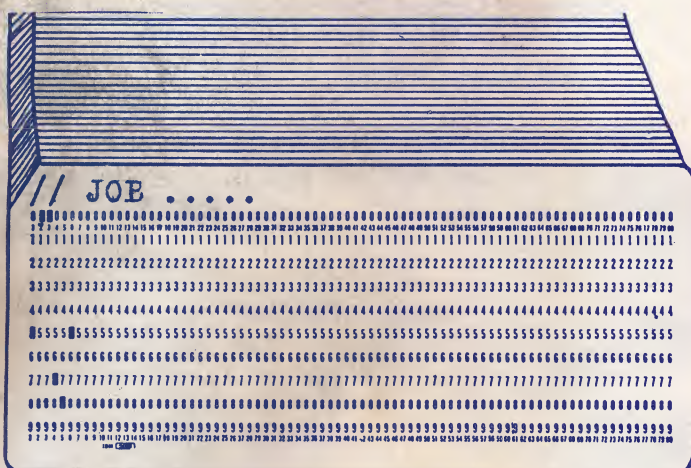
**Systems 360/370 OS Job Control Language**

This seminar is specifically geared to programmers who desire to gain a quick working knowledge of the operating system OS/VS1,VS2 Job Control Language. The course stresses practical application with ample examples. Among the topics to be covered are:

- Operating Systems - OS/VS1,VS2
  - Basic Overview
- Basic Elements of Job Control Language
  - JOB EXEC DD Delimiter Null Statements
- Program Compilation and Executions
  - Catalogued Procedures
- Sequential File Processing
  - Punched Cards & Printers
  - Magnetic Tape Processing
- Direct Access Device Processing
  - BDAM -ISAM
- Procedure Library

**Instructional Staff:**

This seminar will be led by W. Alvin Chai, Lawrence Russell, Stephen O'Connor or a senior member of the SII instructional staff.



**Monday, June 20**  
**9:30 A.M. to 4:30 P.M.**  
**Software Systems Technology, Inc.**  
**32nd Floor**  
**39 BROADWAY**

**Seminar BW6A**

**System Generations**

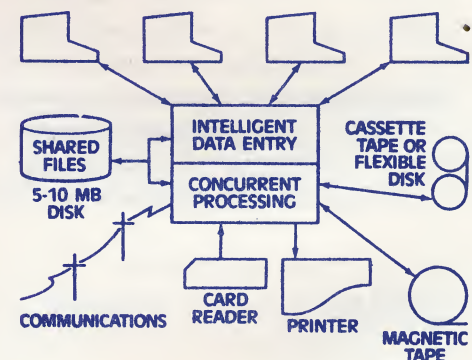
Every modern computer has an operating system. But how such an operating system is generated and how can it be 'tuned' to your specifications and requirements often remains a mystery. This seminar attempts to remove the mystery and presents practical knowledge which you can use to generate your operating system for IBM System 360/370.

**Topics:**

- Background Material
- System Generation Planning
  - Configuration
  - Estimating Storage
  - Real I/O Configuration
  - Utility Programs
  - System Macros
- Generating and Installing
  - System Generation Procedure
  - Checkout and Verification Procedure
  - Backup Procedures
- Maintenance and Updating
  - Program Temporary Exits
  - Cataloged Procedures
  - Documentation
  - Enhancements
  - The Nucleus
- Performance Evaluation and Tuning

**Instructional Staff:**

Stephen S. O'Connor



**Monday, June 27**  
**9:30 A.M. to 4:30 P.M.**  
**Software Systems Technology, Inc.**  
**32nd Floor**  
**39 BROADWAY**



## **Systems & Programming Series (B)**

### **Seminar BW7A**

#### **File Processing - Design and Implementation**

The objective of this seminar is to provide numerous practical directions that can be beneficial to both managers and programming staff in the design and implementation of data files. The seminar will cover recent software advances in file structures and organization with emphasis on practical tools.

#### **Topics:**

- Definitions & Background
- File Organizations
  - Advantages & Disadvantages of Each
  - Direct Access
  - Indexed Sequential
  - Multilist
  - Cellular List
  - Inverted File
- Space Utilization on Disk
- User Requirements - The Design Process
  - How to select the best file organization
- Searching and Sorting Techniques
  - Searching A Table - Linear and Binary
  - Internal Sorting
    - Interchange
    - Shell
    - Bucket
    - Address Calculation
    - Comparison of Sorts
- File Maintenance Consideration
- Case Studies

#### **Instructional Staff:**

Dr. Lawrence Russell/Dr. W. Alvin Chai

**Tuesday, June 28  
9:30 A.M. to 4:30 P.M.  
Software Systems Technology, Inc.  
32nd Floor  
39 BROADWAY**

## **EDP Management Series (C)**

### **Seminar CS9A**

#### **A Management Guide to Computer System Selection**

This seminar is geared to the manager and planning staff members (including data processing steering or user committee members) who are involved in the planning or selection of computer hardware, operating software, and communication facilities. The seminar presents a quick and concise overview of various current computer systems and provides guidelines on management's role in computer hardware/software evaluation and selections.

#### **Topics:**

- Computer Hardware Planning
  - Preparing of Basic Data
  - Workload Projection
  - User Requirements
  - Technology forecast
- Developing System Selection Objectives
  - General requirement
  - Hardware Configurations
- Selecting Process
  - Selection Criteria
  - Check List
- Technical Evaluation
  - Cost Analysis
  - Lease/Purchase Options
  - Vendor Selection
- Survey of Current Computer Systems  
Burroughs, CDC, DEC, Honeywell,  
IBM, Univac & Minis

Discussion of each computer system will begin with an overview followed by a detailed discussion of computer organization and its capabilities.

-Summary

#### **Instructional Staff:**

Dr. Stanley Preiser

**Thursday, June 16  
9:30 A.M. to 4:30 P.M.  
SUMMIT HOTEL  
EAST 51st ST. at LEXINGTON AVE.**



## **EDP Management Series (C)**

### **Seminar CW4A**

#### **THE COMPUTER LEASE/BUY DECISION**

This seminar/workshop is intended for executives, managers and the data processing professional who may be involved in the process of acquiring a computer and evaluating the associated lease-or-buy alternatives. The seminar will examine:

The various lease and purchase alternatives available;

The advantages, disadvantages and risks of each alternative.

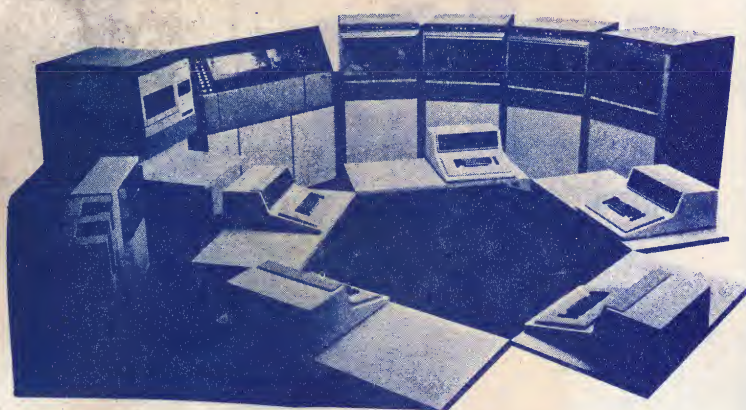
How to analyze a particular situation to determine which alternative would benefit the company most.

How to negotiate the most advantageous lease or purchase contract.

The presentation assumes no particular background in finance or knowledge of any financial terms or concepts. The seminar will give a thorough briefing in current developments in the fast-changing computer leasing area and will discuss possible future changes.

#### **Instructional Staff:**

Mr. Walter T. Bergen Jr.



Thursday, June 23  
9:30 A.M. - 4:30 P.M.  
Software Systems Technology, Inc.  
32nd Floor  
39 BROADWAY

### **Seminar CW5A**

#### **Computers In Business Management (Fundamentals of Data Processing)**

This specially designed seminar is intended for general managers, financial and marketing executives and staff members who have no formal training in data processing. The seminar introduces basic EDP concepts, terminology, and principles. Participants will obtain a basic knowledge of computers, their role in today's business and current trends in this dynamic and rapidly expanding field.

#### **Topics:**

- Introduction - General Background
- Computer Systems - Hardware & Software
- Systems Characteristics
  - Batch
  - On-line
  - Real Time
  - Timesharing
  - Multiprogramming
  - Multiprocessors
  - Virtual Storage & Virtual Machine
- A Survey of Current Major Computer Systems
- A Survey of Programming Language Features & Capabilities
  - Assembler, COBOL, FORTRAN, PL/1, ALGOL, BASIC, RPG, & APL
- Managing the Computer
  - Acquiring Computer Resources
    - Lease/Purchase Option
  - Organizing the Data Processing
  - Outside Computer Services
    - What's Available
    - Things to Watch Out
- Applying Computers to Management
  - General Areas of Application
  - Developing Management Information Systems Capability
  - Summary
- Current Trends in Data Processing

#### **Instructional Staff:**

Gus Raso or Dr. W. Alvin Chai

Friday, June 24  
9:30 A.M. - 4:30 P.M.  
Software Systems Technology, Inc.  
32nd Floor  
39 BROADWAY



### **Accounting, Auditing and the Computer**

This seminar is intended for managers and programming staff members (programmers, analysts, and project leaders) who are interested in familiarizing themselves with accounting as a valuable tool for management control and information processing.

#### **Course Outline:**

- Basic Accounting Principles
  - Accounting Terminology and Definitions
  - Accounting Procedures and Standards
  - Ledgers and Books of Account
  - Financial Statements
- Auditability and the Computer
  - Auditing — What is it?
  - Manual Auditing Vis-A-Vis Computer Auditing
  - Statement on Auditing Standards
    - General Control
      - Plane of Organization and Operation of EDP activity
    - Procedures for:
      - Documenting
      - Reviewing
      - Testing and Approving
    - Hardware Controls
  - Application Controls
- Tools and Techniques
- Essential Needs

**Instructional Staff:**  
Arnold Schneidman

**Tuesday, June 14**  
**9:30 A.M. - 4:30 P.M.**  
**SUMMIT HOTEL**  
**51st ST. at LEXINGTON AVE.**

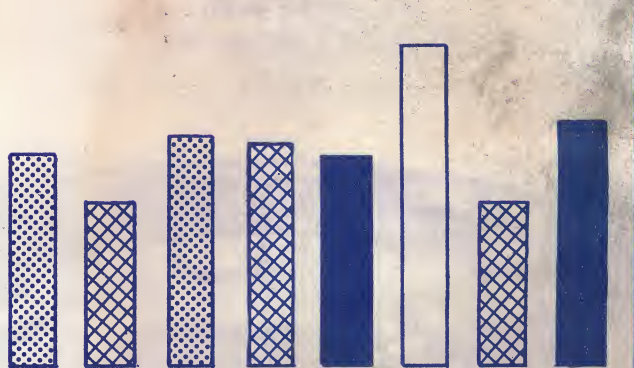
### **Statistical Decisions**

The concepts of decision theory are introduced by way of examining, both numerically and graphically a two-parameter (2 states of nature) problem. Bayes and minimax decisions are discussed. The use of experimental data in decision making is compared with the no-data problem; and the value of using data is also discussed. These concepts are extended to more than three parameters.

Examples are used to introduce and discuss the various aspects of decision theory. Decision theory has been used in industry to make business decisions.

Some familiarity with elementary notions of discrete probability is desirable as a background. Only elementary algebra is used.

**Instructional Staff:**  
Andrew J. Terzuoli



**Friday, June 10**  
**9:30 A.M. to 4:30 P.M.**  
**SUMMIT HOTEL**  
**51st ST. at LEXINGTON AVE.**



## EDP Related Areas (D)

### Seminar DS10B

#### Applied Regression Analysis

This seminar should be of interest to persons desiring to familiarizing themselves with regression analysis as a variable tool in making decisions.

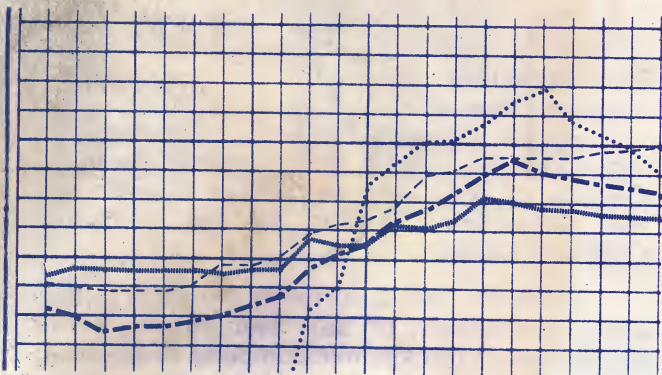
#### Prerequisite:

Some familiarity with introductory probability and statistics is a desirable background.

#### Outline:

- The linear regression – Discussed by way of example
- Precision on the estimated regression in terms of confidence intervals
- Tests of hypotheses using Gaussina, Student's T and F distributions
- Lack of fits and residual errors
- Prediction: Extrapolation vs. Interpolation
- Multiple regression
- General discussions and multiple regression model
- Partial and multiple correlations
- Non-linear and polynomial regression

**Instructional Staff:**  
Andrew J. Terzuoli



**Friday, June 17**  
**9:30 A.M. - 4:30 P.M.**  
**SUMMIT HOTEL**  
**EAST 51st ST. at LEXINGTON AVE.**

### Seminar DS6B

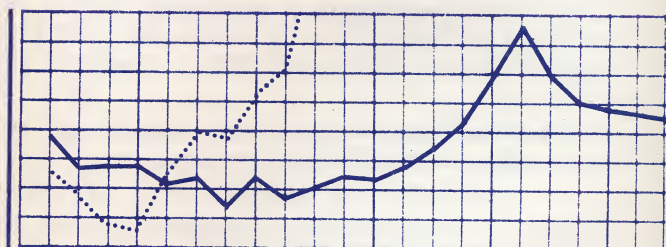
#### Time Series Forecasting

Time series forecasting must consider the nature of available data. Engineering, economic, and social science data are likely to differ in many significant ways. By properly employing available data, constructing operational data bases, and utilizing methodological techniques including autoregressive integrated moving average (Box/Jenkins) methods the Census X-11 program, and exponential smoothing procedures, it is often possible to obtain reliable forecasts.

This workshop deals with all these aspects of time series forecasting emphasizing when to use or not use particular aspects of the methodology. It considers the identification of situation in which forecasting is not likely to be useful as well as presenting guidelines for conducting forecasts in appropriate cases. Available implementations for forecasting methodology are discussed, including problems which may be encountered.

The goal of the course is to provide decision makers with enough information about forecasting to enable them to make sound judgements about when to forecast and how to proceed. Technical details will not be stressed but may be considered should they be of interest to participants. There are, in fact, important details that every users should be aware of and these will be identified.

**Instructional Staff:**  
C.W. Marshall



**Monday, June 13**  
**9:30 A.M. - 4:30 P.M.**  
**SUMMIT HOTEL**  
**EAST 51st ST. at LEXINGTON AVE.**



### Computer Solution of Linear Programming Problems

This workshop is designed for the person already familiar with the application of linear programming to problem formulation. The goal is to learn the use of computer programs to solve the linear programming problems and to analyze and present the solution. Both large and small size programs for batch and interactive modes will be used by the participants.

#### Topics covered will include:

- Real-life computational problems
- Problem size
- Data Preparation and Input
- Reducing computational errors
- Solution output
- Programs for data preparation and matrix generation
- MPS (Mathematical Programming System) as an example of batch mode operation
- Use of MPS - format program for actual problem solution
- Programs for generating reports from solution results
- Post-optimality analysis capability of programs
- Large interactive mode programs
- Small interactive mode programs
- Hands-on use of minicomputer with small interactive program

#### Instructional Staff:

Dr. Joachim I. Weindling

Wednesday, June 15  
9:30 A.M. - 4:30 P.M.  
SUMMIT HOTEL  
EAST 51st ST. at LEXINGTON AVE.

### Programming Workshops

These workshops are a series of intensive courses in program coding. These courses are designed specifically for the busy professional who needs a working knowledge and overview of a programming language.

Workshop: APL for Commercial Applications  
ESTI Tuesday, June 7  
STSC, 747 Third Ave.

The following workshops will be held at the 32nd floor, 39 Broadway.

Workshop: EW8A  
BASIC  
Wednesday, June 29

Workshop: EW9A:  
COBOL  
Thursday, June 30

Workshop: EW10A  
FORTRAN  
Friday, July 1

The fee for each workshop is \$150 which includes the cost of the programming text and computer time. 9:30-4:30 P.M.

The APL workshop will be led by Messrs. Allen J. Rose and Paul Tava. Mr. Rose is presently a Vice President and Technical Director of Scientific Time Sharing Corp. while Mr. Tava is currently a manager of the same firm.

#### BIOGRAPHIES

##### -Program Directors:

Stanley Preiser is Professor of Mathematics and Computer Science at Polytechnic. He is the Director of the Computer Science Division and the Consulting Director of the Institute's Computer Center.

Henry W. Chai is currently as Executive Vice President of SST Systems Inc., a firm specializing in turnkey minicomputer systems and EDP education and training. He is a consultant to industry and co-authored a textbook in computer programming.



## BIOGRAPHIES

### Instructional Staff

Dr. Susan M. Arseven is a senior computer scientist with Lederle Laboratories. She has been active in the data processing field for more than 12 years in all aspects of software systems development.

Mr. Walt T. Bergen Jr. is the president and founder of Vector Systems Management Corporation, a data processing consulting firm specializing in placing and leasing large 370 systems.

Dr. Stanley Benton is a former top graduate from the Naval Academy. He has been involved in EDP for over 15 years. Dr. Benton currently teaches Computer Science at Montclair State College and acts as consultant for Systems Information Institute.

Mr. Charles Bontempo is currently teaching data-base course at IBM's Systems Research Institute and the graduate program at Polytechnic Institute of New York. He has more than 15 years experience in data processing including design, implementation and use of data-base management and generalized file processing systems.

Dr. Charles R. Giardian is a consultant for the Singer Company and professor of Mathematics, Computer Science and Electrical Engineering at Fairleigh Dickinson University.

Dr. Stanley Habib is currently Visiting Associate Professor at the Polytechnic. Previously, Dr. Habib worked at the New Jersey Institute of Technology, Rutgers University and the Bell Telephone Laboratories. He has been doing active research in microprogramming applications.

Mr. Harold Lorin has been on the faculty of IBM's Systems Research Institute since 1968. He currently teaches in the areas of Multiprocessor Design, Operating Systems Design, Minicomputers and Distributed Processing. He has authored several books in the computer field, and is an adjunct faculty member at Polytechnic Institute of New York.

Dr. C.W. Marshall is a professor of mathematics at Polytechnic Institute of New York and has lectured extensively in the area of statistics and time-series forecasting.

Mr. Daniel McCracken is the author and co-author of textbooks, including standard works on Fortran, COBOL, and ALGOL. He is currently the Vice-President of the Association of Computer Machinery, and a regular contributor to Datamation.

Glenford J. Meyers is a staff member of the IBM Systems Research Institute. He is the author of the book *Reliable Software. Through Design and Software Reliability: Principles* and of the forthcoming texts *Composite Design* and *Advances in Computer Architecture*.

Mr. Alan W. Kaufman is presently Manager of Special Products at Executone, Inc. Prior to this, he was marketing Manager for ADL Systems and spent almost nine years with the IBM Corp. in various technical and marketing positions.

Mr. Stephen S. O'Connor is currently a member of the technical staff at TIAA. He has been involved in systems generation since 1972 and acted as a consultant for Marchinko-Chai Associates, Inc.

**In-Plant Courses:** All Courses listed and modifications thereof are available for in-plant presentation. Scheduling will be at Client's request. For further information contact:

G.J. Fischer  
Dean of Special Programs  
Polytechnic Institute of N.Y.  
333 Jay Street  
New York, N.Y. 11201  
(212) 643-2150

Dr. Lawrence Russell has been actively involved in EDP for over 20 years. He is currently on the faculty of Montclair State College and is recognized as an expert in Computer Simulation and Modeling.

Dr. Henry Ruston is presently an Associate Professor of Electrical Engineering and Computer Science. He is also a consultant to industry, co-author of a book on circuit design and the author of a forthcoming text on PL/I.

Dr. A. Sanzone is currently an Assistant Professor at Baruch College of Business. He has over 12 years experience in designing information systems and consulting to top management in the area of computerized information systems. His clients include municipalities, cities and industrial organizations.

Lynda W. Sloan has more than 12 years experience in data processing. Her work includes system design, equipment selection, programming and implementation. She is presently teaching courses in systems and programming at CUNY.

Mr. Arnold Schneidman is a graduate of CCNY and a partner of Seymour Schneidman & Associates, Certified Public Accountants. He is a member of AICPA and served as chairman of several EDP committees including the Computer Services Executive Committee. He co-authored a book on Auditing for IBM System 32.

Dr. Martin L. Shooman is a professor of computer science and electrical engineering at Polytechnic Institute of New York. He has lectured extensively and served as a consultant to industry.

Mr. Andrew Terzuoli has taught special training courses in probability and statistics for various industries. He is currently a professor of mathematics at Polytechnic Institute of Brooklyn.

Mr. Gus Raso has been in data processing for more than 10 years. He has been lecturing extensively & currently he is a supervisor in charge of scientific computation.

Dr. Joachim Weindling is currently Professor of Operations Research at the Polytechnic Institute of New York. He was a vice-president in charge of engineering in industry, and a consultant to industry and government.



# Professional Development Seminars/Workshops

Course Schedule — June 6 — June 24, 1977

Co-Sponsored By:

Office of Special Programs  
Polytechnic Institute of New York  
and  
Systems Information Institute

## • EDP State-of-the-Art Series

	Course Code	Date	Page
Teleprocessing - Data Communication Networks	AS1A	June 6	3
Systems Analysis and Design	AS1B	June 6	3
Composite/Structured Design	AS2A	June 7	4
Software Reliability	AS8A	June 15	4
Microprocessors and Multiprogramming	AS3A	June 8	5
Performance Evaluations	AS5A	June 10	5
Database Management Systems	AS6A	June 13	6
Distributed Processing	AS10A	June 17	6
Minicomputers	AW2A	June 21	7
Word Processing	AW3A	June 22	7

## • EDP Systems and Programming Series

Structured COBOL	BS4A	June 9	8
Structured PL/I	BS7B	June 14	8
OS Job Control Language	BW1A	June 20	9
Systems Generation	BW6A	June 27	9
File Processing - Design and Implementations	BW7A	June 28	10

## • EDP Management Series

A Management Guide to Computer System Selection	CS9A	June 16	10
The Computer Lease/Buy Decision	CW4A	June 23	11
Computers in Business Management	CW5A	June 24	11

## • EDP Related Areas

Accounting, Auditing and the Computer	DS7A	June 14	12
Statistical Decisions	DS5B	June 10	12
Applied Regression Analysis	DS10B	June 17	13
Time Series Forecasting	DS6B	June 13	13
Computer Solution of Linear Programming Problems	DS8B	June 15	14

## • Programming Workshop

• APL	EST1	June 7	14
• COBOL	EW9A	June 30	14
• BASIC	EW8A	June 29	14
• FORTRAN	EW10A	July 1	14

## • Biographies of the Instru

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**Polytechnic**

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Polytechnic Institute of New York  
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